

OVERDIAGNOSIS: *Making People Sick in the Pursuit of Health*

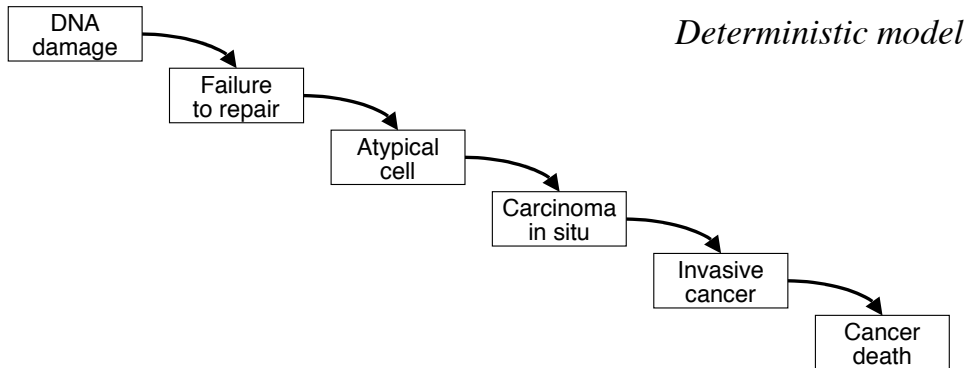
H. Gilbert Welch MD, MPH

A Fundamental Medical Paradigm:

The best way to keep people healthy is to find and treat disease early.

Underlying assumption:

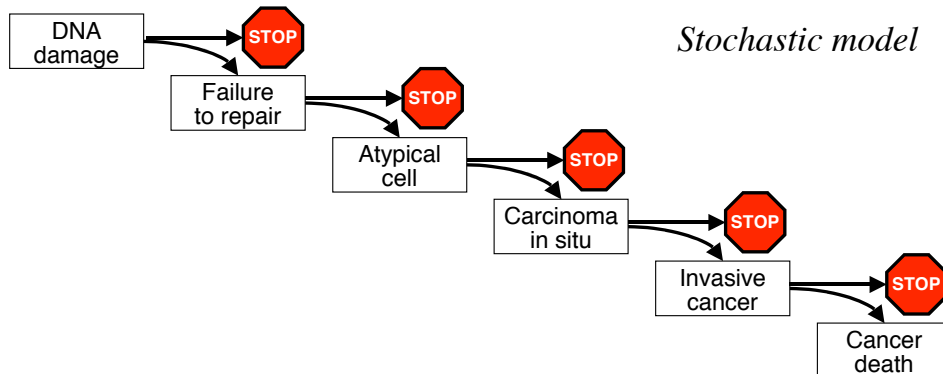
Without intervention, early forms of cancer invariably progress to advanced cancer.



Inconsistent observations:

Whenever we look for early cancer, we find a lot more people have cancer than we would ever expect to go on to develop advanced cancer.

(i.e. not all early cancers progress to become advanced cancer)



Implications:

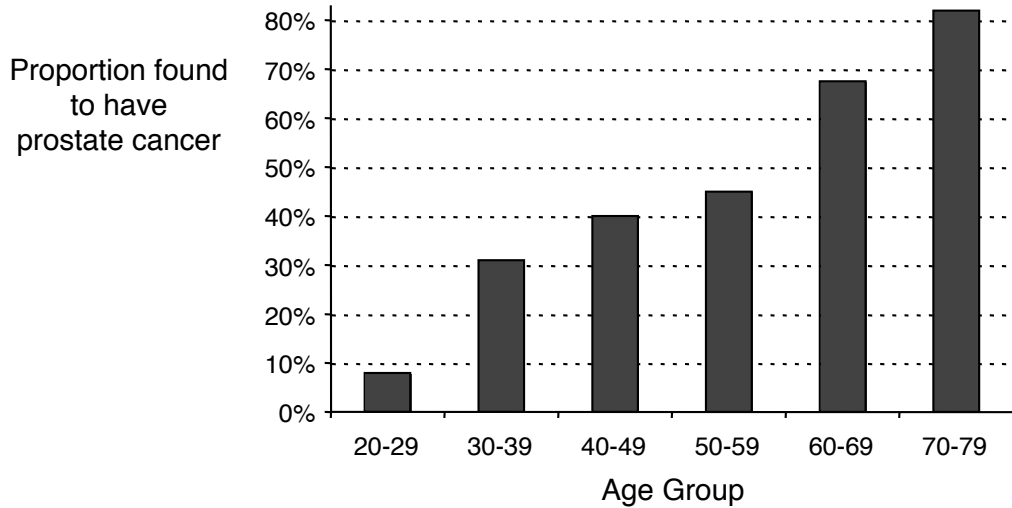
1. Early diagnosis leads us to label too many people as having cancer. Those not destined to develop symptoms or death from their cancer are overdiagnosed.
2. Because we don't know who is overdiagnosed and who is not, we treat everybody. Thus some are treated who can't benefit from treatment (because their "cancer" would never bother them) and can only be harmed.

Disclaimers

1. Not saying that advanced cancer is not a bad disease – it is.
2. Not saying you should never be screened for cancer. Instead trying to be clear there are two-sides to the issue. While some may be helped, others are hurt.

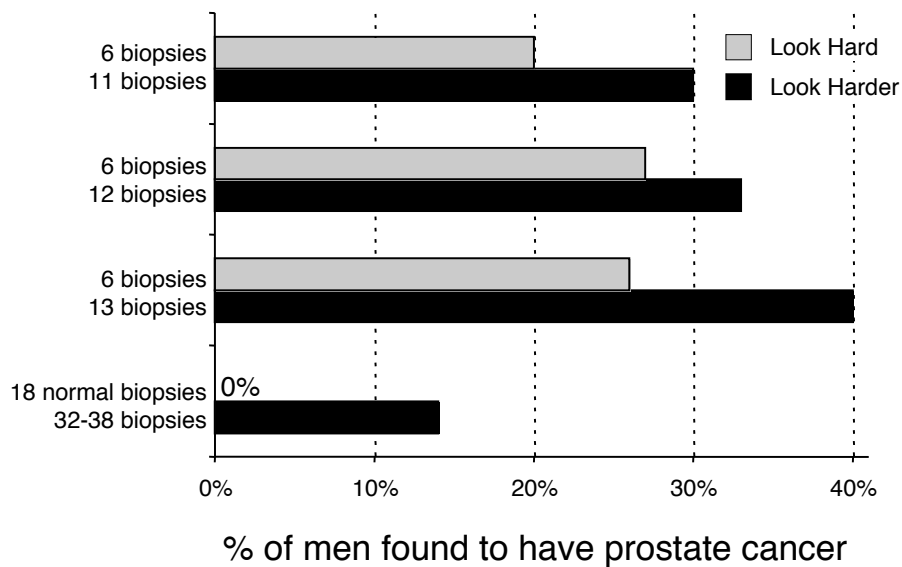
There is a vast reservoir of cancer...

Figure 1 - PROSTATE CANCER RESERVOIR IN MEN DYING FROM AN ACCIDENTAL DEATH



...so as we look harder we always find more

Figure 2 - HOW INCREASING THE NUMBER OF BIOPSIES (LOOKING HARDER) FINDS MORE PROSTATE CANCER

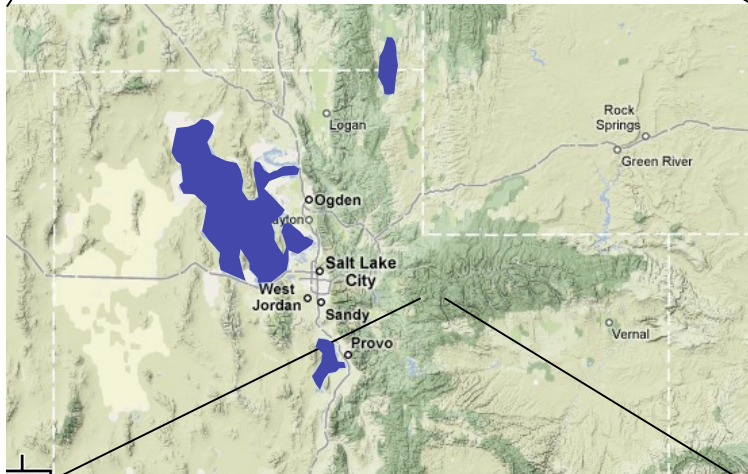


Look Harder, Find More

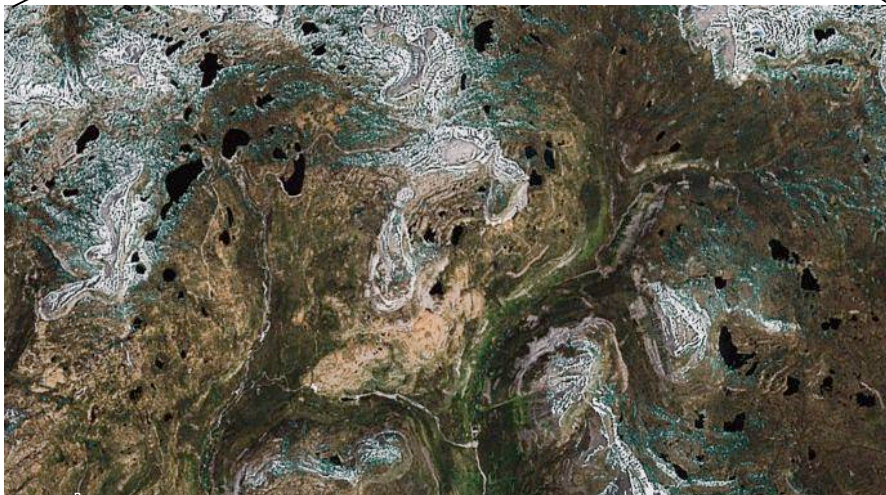
How many lakes in the State of Utah?



Continental US
View = 1

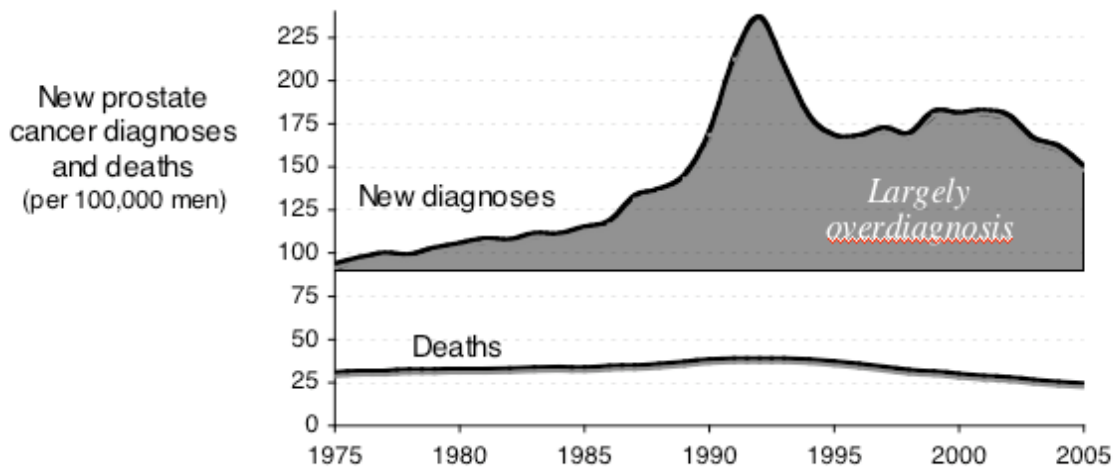
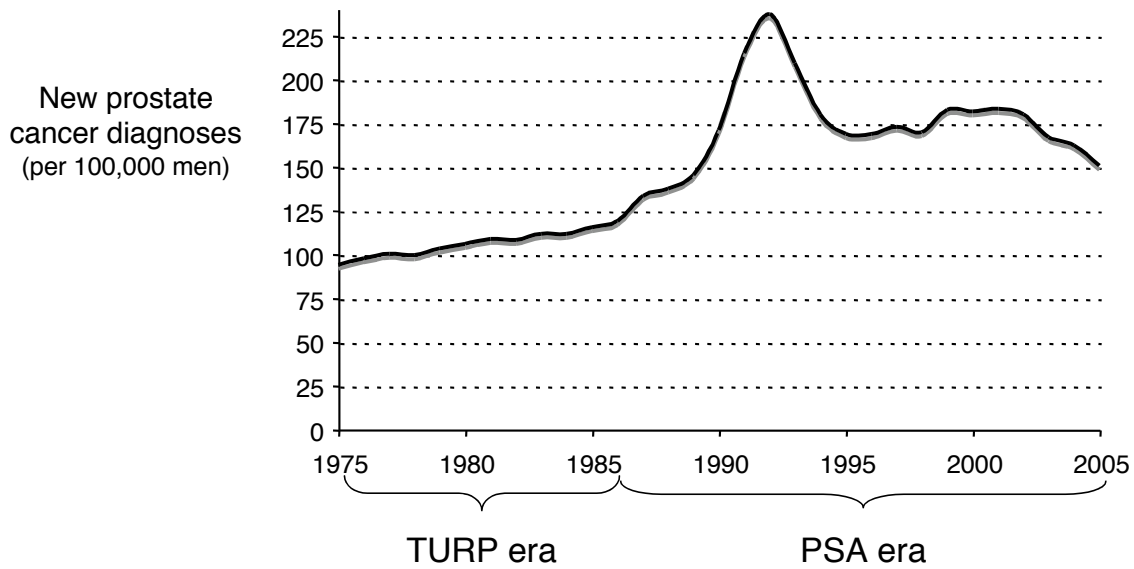


Utah
View = 3



High Uinta
View = 39+
(in one section)

National Data: Prostate Cancer



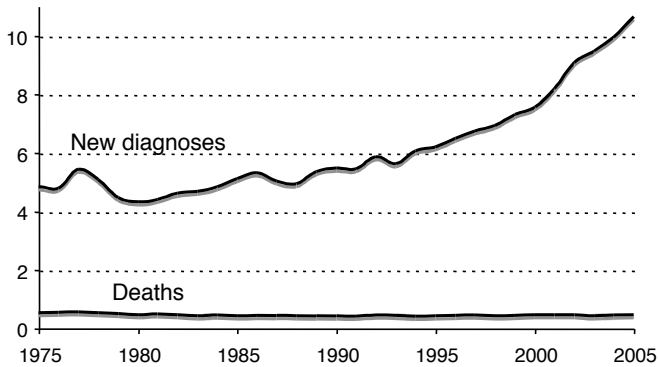
Better safe than sorry?

Risks of surgery: loss of sexual function, difficulty urinating or being able to control urine

Risks of radiation: painful defecation due to radiation proctitis

National Data: Thyroid Cancer, Melanoma & Breast Cancer

New thyroid cancer diagnoses and deaths (per 100,000 people)



Thyroid Cancer

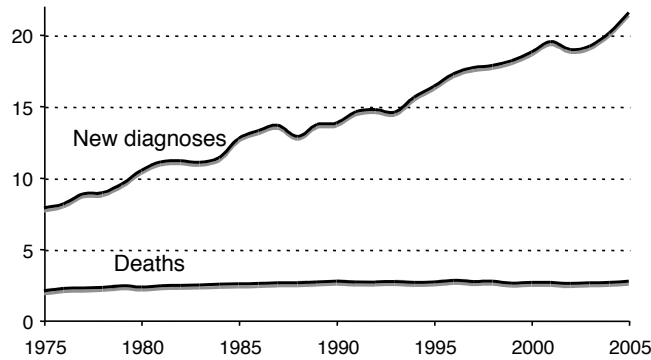
more neck exams
more ultrasounds

Better safe than sorry?

Risks of surgery -
hoarseness, trouble
swallowing, calcium
imbalance

Must take life-long
replacement medication.

New melanoma diagnoses and deaths (per 100,000 people)



Melanoma

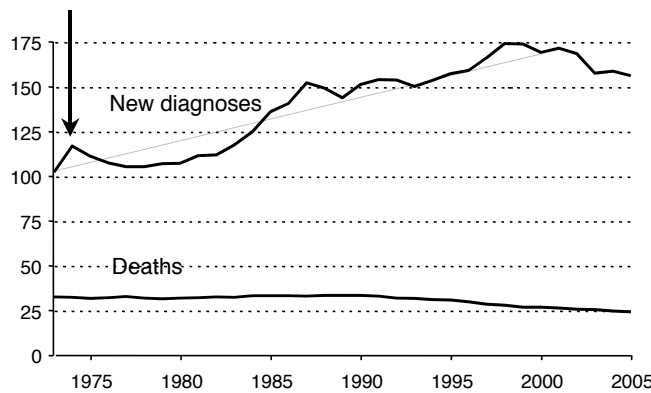
more skin exams
more biopsies

Better safe than sorry?

Risks of surgery -
generally minor, occasionally
requires flaps & grafts

Anxiety associated with life-
long surveillance

New breast cancer diagnoses and deaths (per 100,000 women)



Breast Cancer

more mammography

Better safe than sorry?

Disfiguring surgery
often combined with ≈30
radiation treatment and/or
chemotherapy (with
attendant nausea, fatigue,
and hair loss)

...and all these diagnoses can affect the ability to obtain health insurance

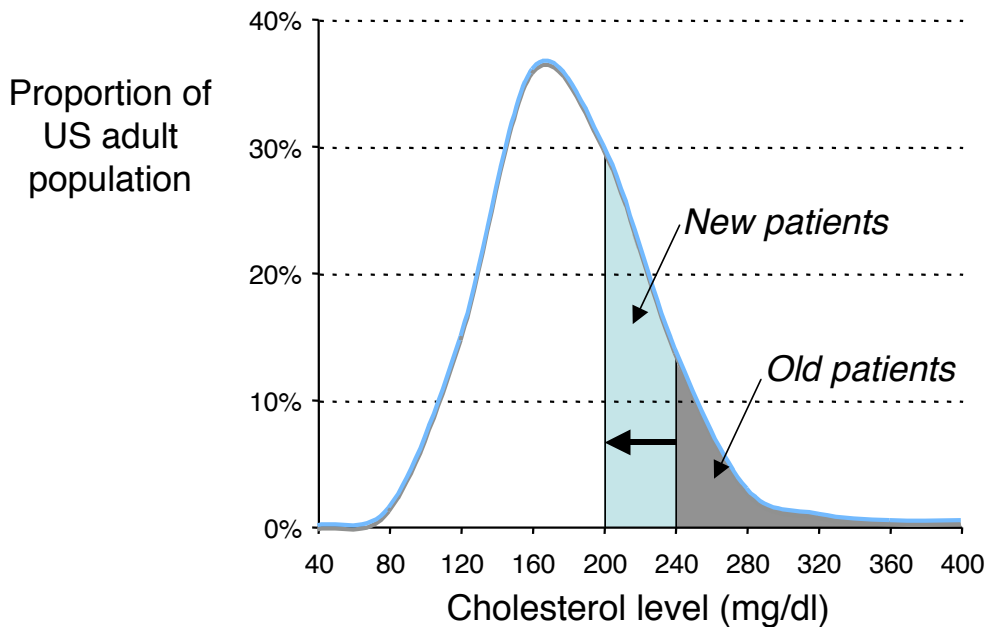
Appendix

Cancer screening is only one aspect of the "early detection" dogma There are other ways we turn people into patients

We are also screening more for conditions other than cancer
(coronary artery disease, carotid stenosis, abdominal aortic aneurysm, peripheral vascular disease, etc.)

and whenever we look harder, we find more.

We have "changed the rules" to expand the number of Americans said to have various conditions. Like what constitutes a normal cholesterol...



...and have done the same for diabetes, high blood pressure and osteoporosis.

Finally, there's the whole issue of genetic testing for chronic diseases. We all harbor genetic variants that will show us to be at "increased risk" for some disease or other.

If we continue to blindly follow this dogma, we all could be turned into patients. But is this really the road to better health?